Remarks

Favorable reconsideration of this application is requested in view of the following remarks. For the reasons set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The Final Office Action dated May 24, 2006, indicated that claims 1-27 are rejected under 35 U.S.C. § 103(a) over Muller *et al.* (U.S. Patent No. 6,606,301) in view of Bellaton *et al.* (U.S. Patent No. 6,473,425).

Applicant respectfully traverses the Section 103(a) rejection of claims 1-27. The Office Action fails to present a combination of references that corresponds to the claimed invention for the reasons stated below, including those stated in the previous response which Applicant hereby incorporates by reference. Notwithstanding and in an effort to facilitate prosecution, Applicant has amended claims 1 and 13 to include limitations directed to the relationship of the incoming packet and the selected packet. Moreover, Applicant has amended claim 18 to include limitations directed to a particular aspect of the claimed invention and not for purposes of patentability. The amendments do not represent new matter.

With respect to claims 1-29, the Office Actions asserted combination of references does not correspond to the claimed invention, and as such the rejections are improper. More specifically, the Muller reference is directed to a NIC that processes packets passed between a host computer and a network. (See, Col. 1, lines 6-10). The cited portions of the Muller reference teach randomly selecting a packet from the queue of packets to be processed by the host computer but do not teach that the packets are outgoing packets. Applicant submits that the Muller patent does not teach comparing an incoming packet with an outgoing packet. Instead, Muller teaches a computer that receives packets to be processed and in response to the NIC input queue filling up (due to the host processor being unable to keep pace), drops packets. The packets being compared are not taught to be subsequently output to the network and are instead to be processed by the host computer. (*See, e.g.*, col. 3, lines 34-41). Thus, the Office Action appears to have improperly construed the teachings of the Muller reference to teach matching incoming packets to outgoing packets because the cited portions of the Muller reference appear to only compare

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incoming packets to received packets (*e.g.*, the queued packets are not taught to be queued for output to a network). Accordingly, the cited portions of the Muller reference do not teach any matching between incoming and outgoing packets as required by each of the independent claims. Applicant requests that the rejections be withdrawn.

Applicant further traverses the Section 103(a) rejection of claims 1-27 because the asserted combination of references defeats the purpose of one or more of the references. The Office Action acknowledges in the pertinent part of the Office Action that: "Muller fails to disclose detecting a matching flow identification between a recently-received incoming packet with at least one packet selected from a set of outgoing packets in order to determine which packet to be dropped." (See, pages 2-3). For each of claims 1-27, the Office Action attempts to overcome this deficiency by citing portions of the Bellaton '425 reference relating to a processor (28) of Figure 2 and the flow chart of Figure 11.

Applicant submits that this asserted combination would defeat the purpose of the cited references because the asserted combination is illogical and would not function to provide adequate performance and make allowance for an over-burdened host computer (as taught by Muller at Col. 3, lines 26-30). More specifically, the Muller reference is directed to a NIC that processes packets passed between a host computer and a network. (See, Col. 1, lines 6-10). The cited portions of the Muller reference teach randomly selecting a packet from the queue of packets to be processed by the host computer. In contrast, the Bellaton reference teaches determining whether the incoming packet is already in the queue (*i.e.*, a retransmission). See, e.g., Col. 8, lines 42-53.

Applicant submits that the Office Action's asserted combination would randomly select a packet from the queue and then would compare the packet to an incoming packet to see if the incoming packet was a retransmission, and in response, discard one of the packets. Accordingly, the asserted combination would fail discard packets when the queue was full but there were no retransmissions. The combination would also require additional processing power to perform the identification step, and if the randomly selected packet was not a retransmission, no packet would be discarded. Thus, the asserted combination fails to provide adequate performance and make allowance for an over-burdened host computer

because it does not address issues of network congestion (*e.g.*, by failing to drop packets) when the host computer cannot keep pace with the rate of packet arrivals.

Moreover, the asserted combination would not adequately address the problem of unnecessary retransmissions (as taught by Bellaton at Col. 5, lines 36-55), and thus, the purpose of the Bellaton reference would also be frustrated because only a randomly selected packet would be checked against the incoming packet. This is contrary to the teachings of Bellaton because retransmission of packets would still occur unless the randomly selected packet happened to be a retransmission of the particular incoming packet. Accordingly, the rejections to claims 1-27 are improper because they asserted combination of references defeats the purpose of one or more of the references and Applicant requests that they be withdrawn. See M.P.E.P. § 2143.01, *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

Applicant further submits that there is no motivation or suggestion in the prior art to combine these references. According to the Office Action, "The motivation would have been to provide a fair share of the bandwidth between the flows, sessions, connections and prevent congestion." Applicant submits, for the reasons addressed above, that the asserted combination would not provide a fair share of the bandwidth between the flows, sessions, connection and prevent congestion. Instead, the asserted combination would arguably exacerbate congestion and generate conditions conducive to an unfair share of bandwidth. Accordingly, the rejections are improper and should be withdrawn.

Moreover, the Office Action fails to provide correspondence to several claimed limitations. For example, with respect to claims 1 and 13, Applicant submits that the cited teachings of Bellaton reference relied upon by the Office Action do not correspond to the claimed invention. The Bellaton reference teaches matching flow identification in the context of preventing duplicate transmission of a packet. This happens, for instance, in a situation where the round-trip time (RTT) exceeds the retransmission time. *See, e.g.*, col. 5, lines 13-55. In contrast, Applicant's claimed invention matches identification flows and mitigates "unbalanced bandwidth allocation due to congestion-problem flows." Moreover, Applicant has amended claims 1 and 13 to show that the incoming packet

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need not be a retransmission of said at least one packet. Thus, the cited references fail to teach correspondence for each and every claimed limitation of claims 1 and 13 and Applicant requests that the rejections be withdrawn.

With respect to claims 10, 11, 17 and 20, the Office Action has failed to show any correspondence to the limitations directed to a probability corresponding to a misbehaving flow. The Office Action appears to rely upon Col. 111, lines 35-50 and Fig. 24 of the Muller reference to provide corresponding teachings. Applicant submits that no such correspondence exists because the cited portions teach a probability that is based upon a location within a queue rather than a (misbehaving) flow. Applicant accordingly requests that the Section 103(a) rejections be withdrawn.
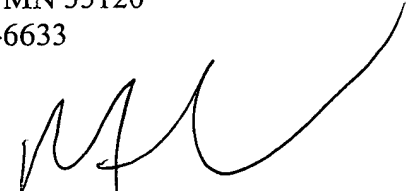
With respect to claim 24, the Office Action has failed to show any correspondence for the limitations directed to quantifying congestion-problem flows. The corresponding cited portions fail to show quantification for congestion-problem flows. Instead, they teach probability indicators for portions of a queue, which are used to determine whether a packet is dropped, and different priorities for different types of flows. Applicant submits that such teachings do not appear to correspond to quantifying congestion-problem flows as required by the claimed limitations. Accordingly, Applicant requests that the rejection be withdrawn.

In view of the above discussion, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. A favorable response is requested. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

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Dated: October 20, 2006   By: _____
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